09/749,861 Notice of Allowability	Application No. 09/749,861	Applicant(s) BOESCH ET AL.	
	Examiner Lun-See Lao	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed on 05-19-2006*.

2. ☒ The allowed claim(s) is/are *21-23,25,26 and 28-32*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

1. This action is in response to the amendment filed on 05-19-2006.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in a telephone interview with Mr. Edward L. Stolarun on June 7, 2006

4. The application has been amended as follows:

Claims 24 and 27 have been canceled. Replace claims 21-22, 26 and 28-29 with the following:

Claim 21 (currently amended) An electrical circuit which constitutes an analog of an acoustic test cell apparatus employing a periodic high intensity acoustic field, said apparatus comprising;

a chamber encompassing a volume;

means for generating a sequence of periodic high-intensity acoustic fields within said volume having ~~a frequency and an intensity~~ different predetermined frequencies and intensities;

an external source directly coupled to said volume for providing said periodic high intensity acoustic fields; and

a tuning port connected to said volume for tuning said frequency of said high intensity acoustic field within said volume to a predetermined frequency and intensity, said tuning port being not directly connected with said external source; and wherein:

said ~~test~~ chamber is rigid and airtight,

said acoustic field is continuous; and

said tuner and said volume form a Helmholtz resonator being physically tuned to each of said different predetermined frequencies to amplify the intensity of the acoustic field in said test volume to thereby subject the test subject to a high intensity acoustic field at each of said different predetermined frequencies; and wherein said volume further comprises:

an input volume and a test volume, said test volume being acoustically isolated from both said source flow and said input volume and connected to said input volume by said associate tuning port; and

a high acoustic mass means for exhausting air from said input volume to the exterior comprising:

an air flow modulator circuit providing a continuous field, comprising;

an AC power source providing a voltage source representing a periodically varying gas pressure source, and

a resistance element representing the flow resistance of a gas flow modulator having said resistance element connected in series with said AC power source;

an input volume circuit in series with said field source comprising:

an inductance element representing a high acoustic mass in series with a resistance

element that represents acoustic losses associated with said acoustic mass.

a capacitance element representing an input volume in parallel with said high acoustic mass , and

a resistance element representing acoustic loss in an input volume in parallel with said input volume;

a tuning port circuit in series with said input volume circuit and comprising:

an inductance element providing a tuning port mass, and

a resistance element representing acoustic loss in a tuning port in series with said inductance element;

a test volume circuit in series with said tuning port circuit and comprising

a capacitance element representing a test volume, and

a resistance element representing acoustic loss in a test volume in parallel with said capacitance element;

wherein continuous DC current flow is varied periodically by said flow modulator circuit and is directly coupled with said input volume said input volume is vented by said high acoustic mass and is tuned by said tuning port to produce a predetermined AC voltage representing an acoustic signal in said test volume.

Claim 22 (currently amended) A method for subjecting a test subject to an acoustical field comprising:

supplying a chamber encompassing an input volume and having an inlet; supplying another chamber encompassing a test volume:

interconnecting said chamber to said another chamber with a tuning port

which forms a Helmholtz resonator interconnecting said input volume to said test volume; positioning the test subject within said test volume; and

applying a periodic acoustic signal having a predetermined driving frequency from an acoustic energy source into said input volume through said inlet to establish an acoustic field in said input volume;

coupling the acoustic field in said input volume to the test volume of said another chamber through said tuning port which forms a Helmholtz resonator tuned to said predetermined driving frequency whereby a test subject in said test volume is subjected to a resonance amplified periodic ~~acoustical~~ acoustic field at said predetermined driving frequency while the test volume is isolated from the acoustic energy sources;

applying a sequence of periodic acoustic signals at different driving frequencies into said input volume: and

physically adjusting said tuning port to tune the Helmholtz resonator to each of said different driving frequencies to thereby subject the test subject to a resonance amplified periodic acoustic field in said test volume at each of said different driving frequencies.

Claim 26 (currently amended) An acoustical test cell apparatus for subjecting a test subject to an ~~acoustical~~ acoustic field comprising:

a chamber encompassing an input volume and having an inlet;

another chamber encompassing a test volume;

a tuning port interconnecting said chamber to said another chamber to form a Helmholtz resonator interconnecting said input volume to said test volume and being tuned to resonate at a particular frequency; ~~and~~

an acoustic energy source for providing a periodic acoustic signal at said particular frequency into said input volume through said inlet whereby a test subject in said test volume is subjected to a resonance amplified periodic ~~acoustical~~ acoustic field at said particular frequency while the test volume is isolated from the acoustic energy source;

said acoustic energy source being capable of providing a periodic acoustic signal at each of different particular frequencies; and

the Helmholtz resonator being physically tuned to each of said different particular frequencies to amplify the intensity of the acoustic field in said test volume to thereby subject the test subject to a high intensity acoustic field at each of said different particular frequencies.

Claim 28 (currently amended) The acoustical test cell apparatus of Claim ~~27~~ 26. wherein: said tuning port has a variable geometry for setting the tuning of the Helmholtz resonator.

Claim 29 (currently amended) The acoustical test cell apparatus of Claim ~~27~~ 26 wherein: said chamber has an outlet; and further including an exhaust means having a high acoustic mass at said outlet for exhausting air from said input volume to the chamber exterior.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Anderson et al. (US PAT. 6,504,938) and Croft (US PAT. 6,389,146) cited to show other related high intensity infrasonic tunable reasonable acoustic test cell.

7. Any response to this action should be mailed to:

Mail Stop ____(explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:
(703) 872-9306

Hand-delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501 The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 06-07-2006

VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600